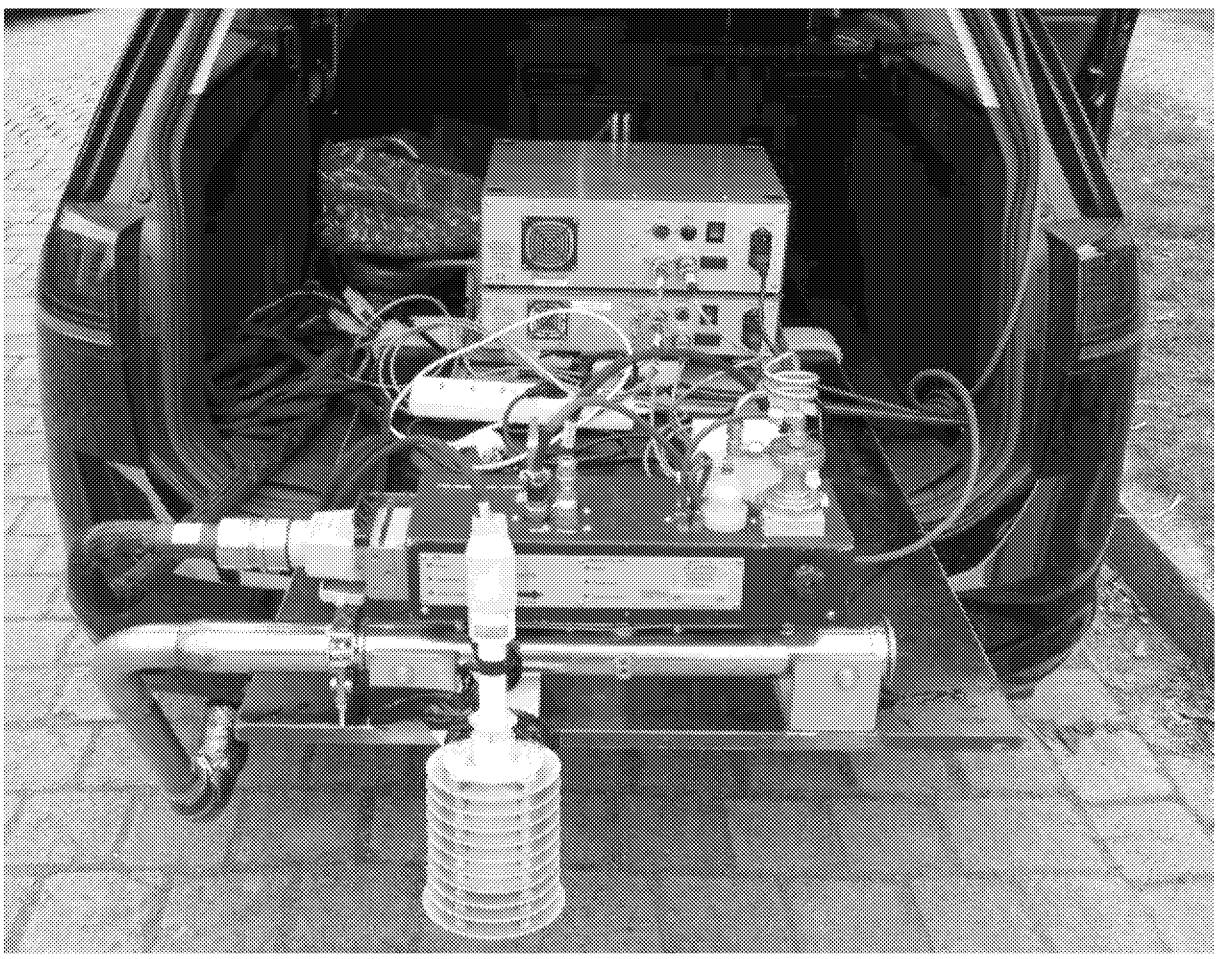
Deutsche Umwelthilfe

NO_x- and CO_2-Measurements on Euro 6 passenger cars on the road

Results

This report shows the average values of NO_x and CO_2 emissions of 39 tested vehicles recorded as part of the project of the "Emissions-Kontroll-Institut" ("Emission Control Institute", EKI).
As a rule, ten test drives were conducted. When determining the CO_2 values, any possible regeneration in the emission control system was not taken into account and included in the average CO_2 value.

The emission measurements under real driving conditions presented here were carried out from May to early September 2016. Due to the predominantly high ambient temperatures corresponding to the laboratory temperature settings (20 - 30 degrees Celsius), it was not possible to check during this time whether temperature-controlled defeat devices were present. The DUH will, therefore, repeat the measurements during the winter months at low temperatures down to -15 degrees Celsius, particularly in the vehicles that demonstrated better NO_x levels in the current measurements.



Exhaust gas measurements of 36 diesel and 3 petrol hybrid cars, Euro 6

Euro 6 Diesel passenger car	Ø CO_2 g/km	Ø NO_x mg/km	Exceedance of limit value by factor
Ford Mondeo 2.0 Duratorq TDCi	155	739	9.2
Nissan Qashqai 1.6 dCi	164	677	8.5
Renault Scenic 1.6 dCi	144	655	8.2
Ford Kuga 2.0 TDCi 2x4	143	614	7.7
Opel Astra Sports Tourer 1.6 CDTi	134	554	6.9
Ford Focus 1.5 TDCi	109	554	6.9
Jeep Renegade 1.6 Multijet (rot)	126	504	6.3
Mercedes A-Klasse A 200 CDI	132	487	6.1
Jeep Renegade 1.6 Multijet (schwarz)	127	453	5.7
Audi A3 1.6 TDI Sportback	157	438	5.5
Hyundai Santa Fe 2.2 CRDi	180	421	5.3
Fiat 500X 1.6	122	420	5.3
Volvo XC60 2.0D	147	414	5.2
Toyota Auris 1.4 D	122	407	5.1
Opel Zafira 1.6 CDTi	155	404	5.1
BMW 520 d Touring	130	387	4.8
BMW 320d GT xDrive	135	360	4.5
Hyundai i30 1.6 CRDi	131	331	4.1
Hyundai Tucson 2.0 CRDi	171	329	4.1
Peugeot 2008 1.6 Blue HDI	109	299	3.7
BMW X5 xDrive 25d	160	283	3.5
VW Golf VII 1.6 TDI Variant	134	228	2.9
Mercedes C 250 d T-Modell	132	206	2.6
Audi A6 2.0 TDI Avant	174	203	2.5
BMW 318 d Touring (silber)	141	200	2.5
Mercedes E220 Bluetec T-Modell	162	188	2.4
VW Touran 1.6 TDI[1)]	*171*	*184*	*2.3*
VW Tiguan 2.0 TDI[1)]	*180*	*141*	*1.8*
Skoda Oktavia 2.0 TDI	132	135	1.7
Audi A4 2.0 TDI Avant	115	119	1.5
VW Passat 2.0 TDI Variant	148	118	1.5
BMW 318 d Touring (schwarz)	133	95	1.2
Opel Zafira 1.6 CDTi (neue Motorsteuerung)[2)]	*138*	*94*	*1.2*
VW T6 Transporter 2.0 TDI[3)]	162	118	0.9
Audi Q3 2.0 TDI quattro	148	48	0.6
Mercedes E 220 d Limousine (neue Motorgeneration)[2)]	*156*	*44*	*0.6*

Euro 6 gasoline and gasoline hybrid car	Ø CO2 g/km	Ø NOx mg/km	Compliance with limit value by factor
Toyota Prius 1.8 Hybrid (blue)[2)]	*84*	*5*	*0.1*
Opel Mokka 1.4 ecoFlex	158	11	0.2
Toyota Prius 1.8 Hybrid (white)	77	15	0.3

[1)] CO_2-number conditionally

[2)] vehicle provided ba manufacturer; results conditionally to additional measurements on vehicles from the fleet

[3)] limit value Euro 6 LDV 125 mg/km

Berlin, September 2016

Technical details and summary of results of tested Euro 6 diesel passenger cars

Modell / First registered (month.year)	**Mercedes E 220 d Limousine (new engine generation)* / 12.2015**
Cubic capacity	1.950 cm^3
Performance	143 kW
Fuel	Diesel
Standard	EURO 6
Mileage	10,614

* provided from manufacturer

Summary

Average CO_2 in g/km	156
Average NO_x in mg/km	44
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	0.6

Modell / First registered (month.year)	**Audi Q3 2.0 TDI quattro / 03.2016**
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	1,569

Summary

Average CO_2 in g/km	148
Average NO_x in mg/km	48
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	0.6

Modell / First registered (month.year)	VW T6 Transporter 2.0 TDI / 03.2016
Cubic capacity	1.968 cm^3
Performance	75 kW
Fuel	Diesel
Standard	EURO 6
Mileage	4,735

Summary

Average CO_2 in g/km	162
Average NO_x in mg/km	118
Factor to limit value NO_x Euro 6 Diesel (125 mg/km)*	0.9

* NOx limit value Euro 6 for light duty vehicles is 125 mg/km

Modell / First registered (month.year)	Opel Zafira 1.6 CDTi (new motor control unit)* / 03.2016
Cubic capacity	1.598 cm^3
Performance	100 kW
Fuel	Diesel
Standard	EURO 6
Mileage	4,130

* provided by the manufacturer

Summary

Average CO_2 in g/km	138
Average NO_x in mg/km	94
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.2

Modell / First registered (month.year)	BMW 318 d Touring (black) / 02.2016
Cubic capacity	1.995 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	12,238

Summary

Average CO_2 in g/km	133
Average NO_x in mg/km	95
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.2

Modell / First registered (month.year)	VW Passat 2.0 TDI Variant / 04.2016
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	3,553

Summary

Average CO_2 in g/km	148
Average NO_x in mg/km	118
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.5

Modell / First registered (month.year)	Audi A4 2.0 TDI Avant / 05.2016
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	2,467

Summary

Average CO_2 in g/km	115
Average NO_x in mg/km	119
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.5

Modell / First registered (month.year)	Skoda Oktavia 2.0 TDI / 04.2016
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	21,205

Summary

Average CO_2 in g/km	132
Average NO_x in mg/km	135
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.7

Modell / First registered (month.year)	VW Tiguan 2.0 TDI / 06.2016
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	7,086

Zusammenfassung

Average CO_2 in g/km	180*
Average NO_x in mg/km	141
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	1.8

* CO_2-numbers have to be re-checked

Modell / First registered (month.year)	VW Touran 1.6 TDI / 02.2016
Cubic capacity	1.598 cm^3
Performance	81 kW
Fuel	Diesel
Standard	EURO 6
Mileage	9,985

Summary

Average CO_2 in g/km	171*
Average NO_x in mg/km	184
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.3

* CO_2-numbers have to be re-checked

Modell / First registered (month.year)	Mercedes E220 Bluetec T-Modell / 01.2016
Cubic capacity	2.143 cm^3
Performance	125 kW
Fuel	Diesel
Standard	EURO 6
Mileage	5,775

Summary

Average CO_2 in g/km	162
Average NO_x in mg/km	188
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.4

Modell / First registered (month.year)	BMW 318 d Touring (silber) / 02.2016
Cubic capacity	1.995 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	-

Summary

Average CO_2 in g/km	141
Average NO_x in mg/km	200
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.5

Modell / First registered (month.year)	Audi A6 2.0 TDI Avant / 03.2016
Cubic capacity	1.968 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	8,463

Summary

Average CO_2 in g/km	174
Average NO_x in mg/km	203
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.5

Modell / First registered (month.year)	Mercedes C 250 d T-Modell / 03.2016
Cubic capacity	2.143 cm^3
Performance	150 kW
Fuel	Diesel
Standard	EURO 6
Mileage	5,615

Summary

Average CO_2 in g/km	132
Average NO_x in mg/km	206
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.6

Modell / First registered (month.year)	VW Golf VII 1.6 TDI Variant / 2016
Cubic capacity	1.598 cm^3
Performance	81 kW
Fuel	Diesel
Standard	EURO 6
Mileage	-

Summary

Average CO_2 in g/km	134
Average NO_x in mg/km	228
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	2.9

Modell / First registered (month.year)	BMW X5 xDrive 25d / 12.2014
Cubic capacity	1.995 cm^3
Performance	160 kW
Fuel	Diesel
Standard	EURO 6
Mileage	46,045

Summary

Average CO_2 in g/km	160
Average NO_x in mg/km	283
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	3.5

Modell / First registered (month.year)	Peugeot 2008 1.6 Blue HDI / 05.2016
Cubic capacity	1.560 cm^3
Performance	73 kW
Fuel	Diesel
Standard	EURO 6
Mileage	7,625

Summary

Average CO_2 in g/km	109
Average NO_x in mg/km	299
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	3.7

Model / First registered (month.year)	Hyundai Tucson 2.0 CRDi / 03.2016
Cubic capacity	1.995 cm^3
Performance	100 kW
Fuel	Diesel
Standard	EURO 6
Mileage	7,461

Summary

Average CO_2 in g/km	171
Average NO_x in mg/km	329
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	4.1

Model / First registered (month.year)	Hyundai i30 1.6 CRDi / 02.2016
Cubic capacity	1.582 cm^3
Performance	81 kW
Fuel	Diesel
Standard	EURO 6
Mileage	16,780

Summary

Average CO_2 in g/km	131
Average NO_x in mg/km	331
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	4.1

Model / First registered (month.year)	BMW 320d GT xDrive / 06.2015
Cubic capacity	1.995 cm^3
Performance	135 kW
Fuel	Diesel
Standard	EURO 6
Mileage	20,100

Summary

Average CO_2 in g/km	135
Average NO_x in mg/km	360
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	4.5

Model / First registered (month.year)	BMW 520 d Touring / 04.2016
Cubic capacity	1.995 cm^3
Performance	140 kW
Fuel	Diesel
Standard	EURO 6
Mileage	16,578

Summary

Average CO_2 in g/km	130
Average NO_x in mg/km	387
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	4.8

Model / First registered (month.year)	Opel Zafira 1.6 CDTi / 2015
Cubic capacity	1.598 cm^3
Performance	100 kW
Fuel	Diesel
Standard	EURO 6
Mileage	6,000

Summary

Average CO_2 in g/km	155
Average NO_x in mg/km	404
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.1

Model / First registered (month.year)	Toyota Auris 1.4 D / 10.2015
Cubic capacity	1.364 cm^3
Performance	66 kW
Fuel	Diesel
Standard	EURO 6
Mileage	9,000

Summary

Average CO_2 in g/km	122
Average NO_x in mg/km	407
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.1

Model / First registered (month.year)	Volvo XC60 2.0D / 04.2016
Cubic capacity	1.969 cm^3
Performance	140 kW
Fuel	Diesel
Standard	EURO 6
Mileage	3,367

Summary

Average CO_2 in g/km	147
Average NO_x in mg/km	414
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.2

Model / First registered (month.year)	Fiat 500X 1.6 / 02.2016
Cubic capacity	1.598 cm^3
Performance	88 kW
Fuel	Diesel
Standard	EURO 6
Mileage	2,627

Summary

Average CO_2 in g/km	122
Average NO_x in mg/km	420
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.3

Model / First registered (month.year)	Hyundai Santa Fe 2.2 CRDi / 11.2015
Cubic capacity	2.199 cm^3
Performance	147 kW
Fuel	Diesel
Standard	EURO 6
Mileage	4,462

Summary

Average CO_2 in g/km	180
Average NO_x in mg/km	421
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.3

Model / First registered (month.year)	Audi A3 1.6 TDI Sportback / 03.2016
Cubic capacity	1.598 cm^3
Performance	81 kW
Fuel	Diesel
Standard	EURO 6
Mileage	6,907

Summary

Average CO_2 in g/km	157
Average NO_x in mg/km	438
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.5

Model / First registered (month.year)	Jeep Renegade 1.6 Multijet (schwarz) / 02.2016
Cubic capacity	1.598 cm^3
Performance	88 kW
Fuel	Diesel
Standard	EURO 6
Mileage	8,698

Summary

Average CO_2 in g/km	127
Average NO_x in mg/km	453
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	5.7

Model / First registered (month.year)	Mercedes A-Klasse A 200 CDI / 09.2015
Cubic capacity	2.143 cm^3
Performance	100 kW
Fuel	Diesel
Standard	EURO 6
Mileage	30,730

Summary

Average CO_2 in g/km	132
Average NO_x in mg/km	487
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	6.1

Model / First registered (month.year)	Jeep Renegade 1.6 Multijet (rot) / 02.2016
Cubic capacity	1.598 cm^3
Performance	88 kW
Fuel	Diesel
Standard	EURO 6
Mileage	3,878

Summary

Average CO_2 in g/km	126
Average NO_x in mg/km	504
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	6.3

Model / First registered (month.year)	Ford Focus 1.5 TDCi / 11.2015
Cubic capacity	1.499 cm^3
Performance	88 kW
Fuel	Diesel
Standard	EURO 6
Mileage	30,590

Summary

Average CO_2 in g/km	109
Average NO_x in mg/km	554
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	6.9

Model / First registered (month.year)	Opel Astra Sports Tourer 1.6 CDTi / 03.2015
Cubic capacity	1.598 cm^3
Performance	81 kW
Fuel	Diesel
Standard	EURO 6
Mileage	-

Summary

Average CO_2 in g/km	134
Average NO_x in mg/km	554
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	6.9

Model / First registered (month.year)	Ford Kuga 2.0 TDCi 2x4 / 04.2016
Cubic capacity	1.997 cm^3
Performance	88 kW
Fuel	Diesel
Standard	EURO 6
Mileage	4,808

Summary

Average CO_2 in g/km	143
Average NO_x in mg/km	614
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	7.7

Model / First registered (month.year)	Renault Scenic 1.6 dCi / 03.2016
Cubic capacity	1.598 cm^3
Performance	96 kW
Fuel	Diesel
Standard	EURO 6
Mileage	2,255

Summary

Average CO_2 in g/km	144
Average NO_x in mg/km	655
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	8.2

Model / First registered (month.year)	Nissan Qashqai 1.6 dCi / 12.2015
Cubic capacity	1.598 cm^3
Performance	96 kW
Fuel	Diesel
Standard	EURO 6
Mileage	19,511

Summary

Average CO_2 in g/km	164
Average NO_x in mg/km	677
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	8.5

Model / First registered (month.year)	Ford Mondeo 2.0 Duratorq TDCi / 01.2016
Cubic capacity	1.997 cm^3
Performance	110 kW
Fuel	Diesel
Standard	EURO 6
Mileage	17,050

Summary

Average CO_2 in g/km	155
Average NO_x in mg/km	739
Factor to limit value NO_x Euro 6 Diesel (80 mg/km)	9.2

Technical details and summarized results of Euro 6 gasoline and gasoline-hybrid Euro 6 passenger cars

Model / First registered (month.year)	**Toyota Prius 1.8 Hybrid (blau) / 01.2016**
Cubic capacity	1.798 cm^3
Performance	72 kW
Fuel	Gasoline
Standard	EURO 6b
Mileage	-

Summary

Average CO_2 in g/km	84
Average NO_x in mg/km	5
Factor to limit value NO_x Euro 6b Gasoline (60 mg/km)	0.1

Model / First registered (month.year)	**Opel Mokka 1.4 ecoFlex / 05.2016**
Cubic capacity	1.364 cm^3
Performance	103 kW
Fuel	Gasoline
Standard	EURO 6b
Mileage	-

Summary

Average CO_2 in g/km	158
Average NO_x in mg/km	11
Factor to limit value NO_x Euro 6b Gasoline (60 mg/km)	0.2

Model / First registered (month.year)	**Toyota Prius 1.8 Hybrid (weiß) / 01.2016**
Cubic capacity	1.798 cm^3
Performance	72 kW
Fuel	Gasoline
Standard	EURO 6b
Mileage	8,500

Summary

Average CO_2 in g/km	77
Average NO_x in mg/km	15
Factor to limit value NO_x Euro 6b Gasoline (60 mg/km)	0.3